

Export Corn

Corn Grades and Grade Requirements

Corn is divided into three classes: Yellow corn, White Corn, and Mixed corn. There are no subclasses of corn. Each class of corn is divided into five U.S. numerical grades and U.S.

Sample grade. Special grades are provided to emphasize the qualities or conditions affecting the value of the corn. These special grades are made a part of the grade designation but do not affect the numerical or Sample grade designation.

U.S. Standards for Corn

Grade	Minimum test weight per bushel (pounds)	Maximum limits of -		
		Damaged kernels		Broken corn and foreign material (percent)
		Heat-damaged kernels (percent)	Total damaged kernels (percent)	
U.S. No. 1	56.0	0.1	3.0	2.0
U.S. No. 2	54.0	0.2	5.0	3.0
U.S. No. 3	52.0	0.5	7.0	4.0
U.S. No. 4	49.0	1.0	10.0	5.0
U.S. No. 5	46.0	3.0	15.0	7.0
U.S. Sample grade				

U.S. Sample grade is corn that:

- (a) Does not meet the requirements for the grades U.S. Nos. 1, 2, 3, 4, or 5; or
- (b) Contains stones which have an aggregate weight in excess of 0.1 percent of the sample weight, 2 or more pieces of glass, 3 or more *crotalaria* seeds (*Crotalaria* spp.), 2 or more castor beans, 8 or more cockleburs, 4 or more particles of an unknown foreign substance(s) or a commonly recognized harmful or toxic substance(s), or animal filth in excess of 0.20 percent in 1,000 grams; or
- (c) Has a musty, sour, or commercially objectionable foreign odor; or
- (d) Is heating or otherwise of distinctly low quality.

Corn

Definitions

Test weight (lb/bu) is pounds of grain per Winchester bushel (2,150.42 cubic inches) as determined using an approved device. Test weight is determined before the removal of broken corn and foreign material.

Test weight (kg/hl) is the metric system equivalent to pounds per bushel. Kilograms per hectoliter are calculated by multiplying pounds per bushel by 1.287.

Moisture is the water content of grain as determined by an approved moisture meter. The percentage of moisture in a sample does not affect the numerical grade.

Broken corn is all matter that passes readily through a 12/64-inch round-hole sieve and over a 6/64-inch round-hole sieve. The percentage of broken corn by itself does not affect the numerical grade.

Foreign material is all matter that passes readily through a 6/64-inch round-hole sieve and all matter other than corn that remains on top of the 12/64-inch round-hole sieve. The percentage of foreign material by itself does not affect the numerical grade.

Broken corn and foreign material is all matter that passes readily through a 12/64-inch sieve, and all matter other than corn that remains in the sieved sample.

Damaged kernels (total) are kernels and pieces of corn kernels that are badly ground-damaged, badly weather-damaged, diseased, frost-damaged, germ-damaged, heat-damaged, insect-bored, mold-damaged, sprout-damaged, or otherwise materially damaged.

Heat-damaged kernels are kernels and pieces of corn kernels that are materially discolored by excessive respiration, with dark discoloration extending out of the germ, through the sides, and into the back of the kernel.

Mixed corn is corn that does not meet the color requirements for either of the classes Yellow corn or White corn, and which includes White-capped Yellow corn.

Oil, protein, and starch percentages in corn are determined by an approved near infrared transmittance (NIRT) instrument calibrated to approved methods. Percent corn oil, protein, or starch is reported on a dry matter basis unless other basis is requested. The level of oil, protein, or starch in a sample does not affect the numerical grade.

Table 8. U.S. Corn Exports: Number of lots and quantity exported by class and grade, 1999-2001

Class	Grade	1999		2000		2001	
		Number of Lots	Metric Tons	Number of Lots	Metric Tons	Number of Lots	Metric Tons
Yellow Corn	U.S. No. 1	83	559,986	124	992,877	145	1,183,954
	U.S. No. 2	1,279	26,042,632	1,333	27,667,153	1,324	26,584,107
	U.S. No. 3	662	21,881,200	575	15,737,011	529	14,926,357
	U.S. No. 4	2	2,686	1	1,193	4	11,968
	U.S. No. 5	--	--	--	--	1	1,031
	U.S. Sample						
	Grade	--	--	2	3,734	--	--
	Not inspected	1	2,548	1	2,304	1	9,367
	All lots	2,027	48,489,052	2,036	44,414,272	2,004	42,716,784
White Corn	U.S. No. 1	29	200,788	55	477,726	32	338,769
	U.S. No. 2	64	953,055	49	740,997	54	743,017
	U.S. No. 3	--	--	1	2,560	--	--
	U.S. No. 5	--	--	--	--	1	1,286
	U.S. Sample						
	Grade	--	--	--	--	--	--
All Classes	All lots	93	1,153,843	105	1,221,283	87	1,083,072
	U.S. No. 1	112	760,774	179	1,470,603	177	1,522,723
	U.S. No. 2	1,343	26,995,687	1,382	28,418,150	1,378	27,327,124
	U.S. No. 3	662	21,881,200	576	15,739,571	529	14,926,357
	U.S. No. 4	2	2,686	1	1,193	4	11,968
	U.S. No. 5	--	--	--	--	2	2,317
	U.S. Sample						
Not inspected	Grade	--	--	2	3,734	--	--
	Not inspected	1	2,548	1	2,304	1	9,367
	All lots	2,120	49,642,895	2,141	45,635,555	2,091	43,799,856

-- =No lots reported in this category.

Not inspected=These lots were sold without grade designation.

Table 9. Summary of export Yellow corn quality, 1999-2001

Factor	Grade	Grade Limit	1999				2000				2001			
			No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High
Test Weight (lb/bu)	U.S. No. 1	56.0	83	58.0	56.2	60.2	124	58.2	56.3	60.7	145	58.2	56.4	60.1
	U.S. No. 2	54.0	1,279	57.1	54.0	61.4	1,332	57.3	54.0	61.0	1,324	57.1	54.0	60.0
	U.S. No. 3	52.0	662	57.3	52.6	60.6	575	57.5	53.1	60.9	529	57.3	52.0	60.6
	U.S. No. 4	49.0	2	55.4	51.4	56.5	1	51.9	51.9	51.9	4	55.9	51.6	59.7
	U.S. No. 5	46.0	--	--	--	--	--	--	--	--	1	57.3	57.3	57.3
	U.S. Sample													
	Grade	N/A	--	--	--	--	2	51.3	51.2	51.5	--	--	--	--
	All lots	N/A	2,026	57.2	51.4	61.4	2,034	57.4	51.2	61.0	2,003	57.2	51.6	60.6
Test Weight (kg/hl)	U.S. No. 1	N/A	83	74.7	72.3	77.5	124	74.9	72.5	78.1	145	74.9	72.6	77.4
	U.S. No. 2	N/A	1,279	73.5	69.5	79.0	1,332	73.8	69.5	78.5	1,324	73.5	69.5	77.2
	U.S. No. 3	N/A	662	73.7	67.8	78.0	575	74.0	68.4	78.3	529	73.7	66.9	78.0
	U.S. No. 4	N/A	2	71.3	66.2	72.7	1	66.8	66.8	66.8	4	71.9	66.4	76.8
	U.S. No. 5	N/A	--	--	--	--	--	--	--	--	1	73.8	73.8	73.8
	U.S. Sample													
	Grade	N/A	--	--	--	--	2	66.1	65.9	66.3	--	--	--	--
	All lots	N/A	2,026	73.6	66.2	79.0	2,034	73.9	65.9	78.5	2,003	73.6	66.4	78.0
Moisture	U.S. No. 1	N/A	83	14.4	13.5	15.0	124	14.1	12.6	14.9	145	14.1	13.4	14.8
	U.S. No. 2	N/A	1,279	14.2	11.2	15.1	1,329	14.0	9.4	15.0	1,324	14.1	12.2	15.0
	U.S. No. 3	N/A	661	14.4	13.2	15.1	574	14.1	12.7	15.3	529	14.3	13.1	15.4
	U.S. No. 4	N/A	2	14.0	14.0	14.1	1	13.4	13.4	13.4	4	14.0	13.4	14.7
	U.S. No. 5	N/A	--	--	--	--	--	--	--	--	1	14.8	14.8	14.8
	U.S. Sample													
	Grade	N/A	--	--	--	--	2	13.7	13.5	13.8	--	--	--	--
	All lots	N/A	2,025	14.3	11.2	15.1	2,030	14.0	9.4	15.3	2,003	14.1	12.2	15.4
Heat-damaged Kernels	U.S. No. 1	0.1	83	0.0	0.0	0.0	124	0.0	0.0	0.0	145	0.0	0.0	0.0
	U.S. No. 2	0.2	1,279	0.0	0.0	0.1	1,332	0.0	0.0	0.1	1,324	0.0	0.0	0.2
	U.S. No. 3	0.5	662	0.0	0.0	0.1	575	0.0	0.0	0.1	529	0.0	0.0	0.2
	U.S. No. 4	1.0	2	0.1	0.0	0.1	1	0.0	0.0	0.0	4	0.0	0.0	0.0
	U.S. No. 5	3.0	--	--	--	--	--	--	--	--	1	0.0	0.0	0.0
	U.S. Sample													
	Grade	N/A	--	--	--	--	2	0.0	0.0	0.0	--	--	--	--
	All lots	N/A	2,026	0.0	0.0	0.1	2,034	0.0	0.0	0.1	2,003	0.0	0.0	0.2
Damaged Kernels (Total)	U.S. No. 1	3.0	83	1.6	0.0	2.9	124	1.4	0.2	2.7	145	1.8	0.4	3.0
	U.S. No. 2	5.0	1,279	2.5	0.0	4.9	1,332	2.1	0.3	4.9	1,324	3.0	0.0	5.0
	U.S. No. 3	7.0	662	2.8	0.0	6.7	575	2.0	0.0	5.3	529	3.5	0.0	6.8
	U.S. No. 4	10.0	2	3.3	3.2	3.6	1	1.0	1.0	1.0	4	3.6	2.1	5.3
	U.S. No. 5	15.0	--	--	--	--	--	--	--	--	1	0.9	0.9	0.9
	U.S. Sample													
	Grade	N/A	--	--	--	--	2	1.2	1.0	1.3	--	--	--	--
	All lots	N/A	2,026	2.6	0.0	6.7	2,034	2.0	0.0	5.3	2,003	3.1	0.0	6.8

continued

Table 9. Summary of export Yellow corn quality, 1999-2001--Continued

Factor	Grade	1999						2000						2001						
		Grade Limit	No. of Lots			No. of Lots			No. of Lots			Avg.	Low	High	Avg.	Low	High	Avg.	Low	High
			Avg.	Low	High	Avg.	Low	High	Avg.	Low	High				Avg.	Low	High	Avg.	Low	High
Broken Corn and Foreign Material	U.S. No. 1	2.0	83	1.7	1.0	2.0	124	1.6	0.8	2.0	145	1.6	0.6	2.0						
	U.S. No. 2	3.0	1,279	2.6	0.0	3.0	1,329	2.7	0.7	3.0	1,321	2.6	0.7	3.0						
	U.S. No. 3	4.0	662	3.3	1.4	4.0	575	3.3	0.8	4.0	529	2.9	0.7	4.0						
	U.S. No. 4	5.0	2	3.0	1.3	3.5	1	1.6	1.6	1.6	4	3.2	1.7	4.9						
	U.S. No. 5	7.0	--	--	--	--	--	--	--	--	1	5.3	5.3	5.3						
	U.S. Sample																			
	Grade	N/A	--	--	--	--	2	1.8	1.6	1.9	--	--	--	--						
	All lots	N/A	2,026	2.9	0.0	4.0	2,031	2.9	0.7	4.0	2,000	2.7	0.6	5.3						
	Broken Corn	U.S. No. 1	N/A	3	1.3	1.3	1.4	7	1.1	0.9	1.3	4	1.1	0.9	1.4					
	U.S. No. 2	N/A	178	1.9	0.7	2.4	168	2.0	0.7	2.4	150	1.9	0.8	2.3						
Foreign Material	U.S. No. 3	N/A	106	2.2	0.1	2.9	122	2.2	0.1	2.9	70	2.3	0.6	3.0						
	U.S. No. 4	N/A	--	--	--	--	--	--	--	--	--	--	--	--						
	U.S. No. 5	N/A	--	--	--	--	--	--	--	--	--	--	--	--						
	U.S. Sample																			
	Grade	N/A	--	--	--	--	--	--	--	--	--	--	--	--						
	All lots	N/A	287	2.1	0.1	2.9	297	2.1	0.1	2.9	224	2.1	0.6	3.0						
	U.S. No. 1	N/A	3	0.3	0.3	0.4	7	0.3	0.3	0.4	4	0.3	0.2	0.5						
	U.S. No. 2	N/A	179	0.6	0.3	2.8	166	0.7	0.3	1.8	150	0.7	0.2	2.0						
	U.S. No. 3	N/A	107	0.8	0.3	3.0	122	0.8	0.1	2.5	70	0.8	0.4	1.6						
	U.S. No. 4	N/A	--	--	--	--	--	--	--	--	--	--	--	--						
	U.S. No. 5	N/A	--	--	--	--	--	--	--	--	--	--	--	--						
	U.S. Sample																			
	Grade	N/A	--	--	--	--	--	--	--	--	--	--	--	--						
	All lots	N/A	289	0.7	0.3	3.0	295	0.7	0.1	2.5	224	0.7	0.2	2.0						

N/A = Does not apply.

-- = No lots reported in this category.

Table 10. Summary of export White corn quality, 1999-2001

Factor	Grade	Grade Limit	1999			2000			2001					
			No. of Lots		Avg.	Low	High	No. of Lots		Avg.	Low	High		
			No. of Lots	Avg.				No. of Lots	Avg.					
Test Weight (lb/bu)	U.S. No. 1	56.0	29	59.8	56.6	62.1	55	59.5	56.3	62.0	32	59.2	56.5	60.3
	U.S. No. 2	54.0	64	59.6	57.9	62.1	49	59.7	58.2	61.0	54	59.4	55.8	60.3
	U.S. No. 3	52.0	--	--	--	--	1	57.9	57.9	57.9	--	--	--	--
	U.S. No. 5	46.0	--	--	--	--	--	--	--	--	1	47.7	47.7	47.7
	All lots	N/A	93	59.6	56.6	62.1	105	59.6	56.3	62.0	87	59.3	47.7	60.3
Test Weight (kg/hl)	U.S. No. 1	N/A	29	76.9	72.9	79.9	55	76.6	72.5	79.8	32	76.3	72.7	77.6
	U.S. No. 2	N/A	64	76.7	74.6	79.9	49	76.9	74.9	78.5	54	76.4	71.8	77.6
	U.S. No. 3	N/A	--	--	--	--	1	74.6	74.6	74.6	--	--	--	--
	U.S. No. 5	N/A	--	--	--	--	--	--	--	--	1	61.4	61.4	61.4
	All lots	N/A	93	76.7	72.9	79.9	105	76.8	72.5	79.8	87	76.4	61.4	77.6
Moisture	U.S. No 1	N/A	29	13.9	12.9	14.9	54	13.5	12.8	14.4	32	13.9	12.9	14.6
	U.S. No. 2	N/A	64	14.0	11.9	14.6	49	13.6	12.9	14.5	54	14.0	12.5	14.8
	U.S. No. 3	N/A	--	--	--	--	1	13.1	13.1	13.1	--	--	--	--
	U.S. No. 5	N/A	--	--	--	--	--	--	--	--	1	14.1	14.1	14.1
	All lots	N/A	93	14.0	11.9	14.9	104	13.5	12.8	14.5	87	14.0	12.5	14.8
Heat-damaged Kernels	U.S. No. 1	0.1	29	0.0	0.0	0.0	55	0.0	0.0	0.0	32	0.0	0.0	0.0
	U.S. No. 2	0.2	64	0.0	0.0	0.0	49	0.0	0.0	0.0	54	0.0	0.0	0.0
	U.S. No. 3	0.5	--	--	--	--	1	0.0	0.0	0.0	--	--	--	--
	U.S. No. 5	3.0	--	--	--	--	--	--	--	--	1	0.0	0.0	0.0
	All lots	N/A	93	0.0	0.0	0.0	105	0.0	0.0	0.0	87	0.0	0.0	0.0
Damaged Kernels (Total)	U.S. No. 1	3.0	29	1.1	0.2	2.9	55	1.1	0.2	2.7	32	1.8	0.3	3.0
	U.S. No. 2	5.0	64	1.9	0.3	5.0	49	1.2	0.4	3.5	54	2.4	0.5	4.9
	U.S. No. 3	7.0	--	--	--	--	1	0.8	0.8	0.8	--	--	--	--
	U.S. No. 5	15.0	--	--	--	--	--	--	--	--	1	2.8	2.8	2.8
	All lots	N/A	93	1.7	0.2	5.0	105	1.1	0.2	3.5	87	2.2	0.3	4.9
Broken Corn and Foreign Material	U.S. No. 1	2.0	29	1.7	0.8	2.0	55	1.6	0.8	2.0	32	1.6	0.9	2.0
	U.S. No. 2	3.0	64	2.3	0.8	3.0	48	2.1	1.1	2.9	54	2.0	0.7	2.9
	U.S. No. 3	4.0	--	--	--	--	1	3.7	3.7	3.7	--	--	--	--
	U.S. No. 5	7.0	--	--	--	--	--	--	--	--	1	3.5	3.5	3.5
	All lots	N/A	93	2.2	0.8	3.0	104	1.9	0.8	3.7	87	1.9	0.7	3.5

continued

Table 10. Summary of export White corn quality, 1999-2001--Continued

Factor	Grade	Grade Limit	1999			2000			2001			
			No. of Lots	Avg.	Low	High	No. of Lots	Avg.	Low	High	No. of Lots	Avg.
Broken Corn	U.S. No. 1	N/A	10	1.4	1.0	1.7	12	1.2	1.0	1.4	4	1.1
	U.S. No. 2	N/A	4	1.2	0.6	2.2	1	1.5	1.5	1.5	1	1.6
	U.S. No. 3	N/A	--	--	--	--	1	2.8	2.8	2.8	--	--
	All lots	N/A	14	1.3	0.6	2.2	14	1.3	1.0	2.8	5	1.1
Foreign Material	U.S. No. 1	N/A	10	0.4	0.3	0.5	12	0.4	0.3	0.5	4	0.4
	U.S. No. 2	N/A	4	0.7	0.1	1.8	1	0.5	0.5	0.5	1	0.5
	U.S. No. 3	N/A	--	--	--	--	1	0.9	0.9	0.9	--	--
	All lots	N/A	14	0.4	0.1	1.8	14	0.4	0.3	0.9	5	0.4

N/A=Does not apply.

--=No lots reported in this category.

U.S. CORN EXPORTED, 2001
DISTRIBUTION FOR BCFM - GRADE 2



